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| 2173 | |

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Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/025,925 | BEAUDOIN ET AL. | |
| | Examiner | Art Unit | |
| | Alvin H. Tan | 2173 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *26 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *20-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12/26/01* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Remarks*

1. Claims 1-20 have been canceled by the applicant. Claims 21-46 have been examined and rejected. This document is the first Office action on the merits.

### *Drawings*

2. The drawings are objected to because reference character "16" in *[figure 1]* does not clearly show the 'information sets' as was described in the specification *[page 9, line 14]*.

3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

4. The disclosure is objected to because of the following informalities:

   a. *[On page 1, line 27]*, examiner suggests changing "utilised" to --utilized--.

   b. *[On page 3, line 11]*, examiner suggests changing "analysing" to --analyzing--.

   c. *[On page 4, line 13]*, examiner suggests changing "memorises" to --memorizes--.

   d. *[On page 9, line 1]*, examiner suggests changing "input device" to --input devices-- because *[figure 1]* shows two input devices.

   e. Throughout the specification, applicant has referred to reference character "16" as a plurality of information sets *[page 9, line 14]* and as a single information set *[page 8, line 22]*. Examiner suggests applicant use reference character "16" to refer to --information set(s)-- since applicant has stated that "16" can denote one or more sets *[page 9, lines 16-17]*.

   f. Throughout the specification, applicant has used reference character "16" to refer to both a plurality of information sets *[page 9, line 16]* and a specific individual information set *[page 9, lines 18-19]*. Reference character "16" does not show each specific information set, but the

plurality of information sets *[figure 1]*. Hence, applicant cannot use "16" to refer to each specific information set.

Appropriate correction is required.

### *Claim Objections*

5. Claims 34, 39, 44, 45 are objected to because of the following informalities:

a. In claim 34, line 2, examiner suggests changing "multiple individual representation" to --multiple individual representations--.

b. In claim 39, line 2, examiner suggests changing "an network" to --a network--.

c. In claim 44, line 3, examiner suggests changing "a information set" to --an information set--.

d. In claim 45, line 1, examiner suggests changing "is a presented" to --is presented--.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 26, 41, 42, and 46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claim 26 recites the limitation "the step of moving" in line 1 of the claim. There is insufficient antecedent basis for this limitation in the claim. It should be noted that if claim 26 were to depend on claim 25 instead of claim 24, there would be antecedent basis for "the step of moving".

b. Claim 41 recites the limitation "the telecommunication information set" in line 3 of the claim. There is insufficient antecedent basis for this limitation in the claim.

c. Claim 42 recites the limitation "the telecommunication information set" in lines 1-2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

d. Claim 46 recites the limitation "the user" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 101***

8. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claim 21-34 and 44-46 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The language of the claims raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical

application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 21-42, 44-46 are rejected under 35 U.S.C 102(b) as being anticipated by Cox et al (SIGMOD Record, Vol. 25, No. 4, December 1996).

**Claim 21-34**

11-1. Regarding claim 21, Cox anticipates the claim of a method comprising the steps of presenting a background image representation of at least a first of the aspects of the telecommunication network and presenting a foreground representation of at least a second of the aspects of the telecommunication network over the background image representation, by teaching a 3D network layout that positions nodes geographically on a globe and draws lines or arcs among them *[section 2.1, paragraph 1, lines 1-3]*. "Appropriate selection of the path can reduce the display clutter, and the routing of paths through the globe is effective when used in combination with the translucency control" *[section 2.1, paragraph 3, lines 13-17]*. Cox further explains the translucency

control by teaching, "The arcs can be rendered with translucency, thereby avoiding any occlusion of otherwise hidden arc segments" *[section 2.2, paragraph 3, lines 10-12]*. Thus, the translucent arc segments, globe, and arcs that lie spatially behind other arcs represent the background image and the arc segments that aren't translucent or that spatially lie in front of other arcs represent the foreground image.

11-2. Regarding claim 22, Cox anticipates the claim of the method wherein the background image representation is generated from an information set associated with the telecommunication network such that the background image representation contains less than a complete visual representation of the telecommunications network topology, by teaching that the arcs can be rendered with translucency, thereby avoiding any occlusion of otherwise hidden arc segments *[section 2.2, paragraph 3, lines 10-12]*. Thus, the background image represented by the translucent arc segments doesn't show a complete visual representation of the network topology. The 3D network display must inherently, obtain information from an information set associated with the telecommunication network in order to display the network topology.

11-3. Regarding claim 23, Cox anticipates the claim of the method wherein the background image representation is a combination of a plurality of unselected views of the telecommunication network and wherein the foreground image representation is at least one selected views of the telecommunication network, by teaching that in addition to allowing the arcs to be rendered with translucency, a globe surface acts as a

background to reduce the amount of visual confusion *[section 2.1, paragraph 2, lines 1-13]*. The background globe can also be made partially transparent in order to allow a user to see where some arcs that run behind the globe terminate *[section 2.1, paragraph 3, lines 1-7]*. Cox teaches, "Incorporating user interface controls such as filtering and translucency can further reduce the visual complexity of the display" *[section 2.1, paragraph 3, lines 18-21]*. Thus, a user may filter the display to only show the arcs the user has selected, while making the other arcs as well as part of the globe translucent. This would cause the plurality of unselected views, the translucent arcs themselves, the translucent arcs shown with the part of the globe that is not translucent, and the translucent arcs shown with the part of the globe that is translucent, to be in the background. The foreground image would be represented by the user selected arcs.

11-4. Regarding claim 24, Cox anticipates the claim of the method wherein the step of presenting the foreground image representation comprises displaying the at least one selected view in a distinguishable fashion from the combination of unselected network views forming the background image representation to enable the at least one selected view of the telecommunication network to be viewed in context of information contained in the background image representation, by teaching that the background globe can be made partially transparent in order to allow a user to see where some arcs that run behind the globe terminate *[section 2.1, paragraph 3, lines 1-7]*. Thus, the foreground arcs are displayed in a distinguishable fashion from the background globe and arcs and are further able to be viewed in context of the background image.

11-5. Regarding claim 25, Cox anticipates the claim of the method further comprising the step of moving at least one of the unselected views of the telecommunication network from at least one of the background image representation to the foreground image representation, and the step of moving at least one of the selected views of the telecommunication network from the foreground image representation to the background image representation, by teaching that arcs can be rendered with translucency *[section 2.2, paragraph 3, lines 10-12]*. Thus, a translucent arc in the background can be moved into the foreground by removing its translucency and an arc in the foreground can be moved into the background by making it translucent.

11-6. Regarding claim 26, Cox anticipates the method wherein the step of moving is performed upon receipt of input from a user of a network management tool, by teaching that rendering the arc with translucency is an option incorporated into the arc map made available to a user *[section 2.2, paragraph 3, lines 1-6, 10-12]*.

11-7. Regarding claim 27, Cox anticipates the method wherein the background image representation is a reference view of a base model representation; and wherein the foreground image representation is an overlay view of the base model representation, by teaching that arcs can be rendered with translucency, thereby avoiding any occlusion of otherwise hidden arc segments *[section 2.2, paragraph 3, lines 10-12]*. The translucent arcs represent the background image, which is a reference view of a base

model representation of the whole network topology. Cox teaches, "The properties of the graphical objects used to draw the graph, such as the color and size of glyphs or the thickness of lines, can be used to encode statistics about the nodes and links. The interesting aspects of a graph often involve its topology structure, and connectivity, and the positioning or layout of the nodes and links can often be exploited to emphasize these properties" *[section 1, paragraph 3, lines 8-15]*. Thus the non-translucent arcs may be graphically represented so as to show statistics of the connections. The arcs in combination with its graphical depiction represent the overlay view of the base model representation.

11-8. Regarding claim 28, Cox anticipates the method wherein the background image representation is grayed out relative to the foreground image representation, by teaching, "The color and thickness of lines may be used to represent the traffic, with the thicker and brighter lines showing the links carrying the most traffic, with the greatest capacity, and so forth" *[section 1, paragraph 5, lines 8-12]*. Thus, the lines between the nodes that carry little traffic may be represented by a more discrete color such as gray.

11-9. Regarding claim 29, Cox anticipates the claim of the method wherein the first aspect is a physical network topology and the second aspect is a logical network topology, by teaching that the global network view may also be easily incorporated into other 3D network display systems, and is not restricted to world-wide networks *[section*

*3, paragraph 5; lines 10-13]*. Thus, the network view may be used to view a physical and logical network topology.

11-10. Regarding claim 30, Cox anticipates the claim of the method wherein the background image representation and foreground image representation allow simultaneous displays of representations of multiple network technologies available on the telecommunication network, by teaching, "The graphical objects used to draw the graph, such as the color and size of glyphs or the thickness of lines, can be used to encode statistics about the nodes and links. The interesting aspects of a graph often involve its topology, structure, and connectivity, and the positioning or layout of the nodes and links can often be exploited to emphasize these properties" *[section 1, paragraph 3, lines 8-11]*. Further, "The glyphs may be colored, shaped, and sized to encode statistics associated with the nodes, for example, the router capacity, utilization, and packet losses" *[section 1, paragraph 5, lines 12-15]*. Thus, the graphs allow the simultaneous display of representations of multiple network technologies on the telecommunication network.

11-11. Regarding claim 31, Cox anticipates the claim of the method further comprising the step of enabling a combination of the background and foreground images to be visible via a Graphical User Interface (GUI) of a network management tool, by teaching a 3D network layout shown on a graphical user interface in *[figure 1]*.

11-12. Regarding claim 32, Cox anticipates the claim of the method wherein the first aspects and second aspect are user selectable from the plurality of aspects of the telecommunication network via the GUI, by teaching that rendering the arc with translucency is an option incorporated into the arc map made available to a user *[section 2.2, paragraph 3, lines 1-6, 10-12]*. Thus, the user can select which arcs are in the foreground and which are in the background.

11-13. Regarding claim 33, Cox anticipates the claim of the method wherein the first aspect represents physical devices in the telecommunication network and wherein the second aspect represents attributes of the physical devices, by teaching "The graphical objects used to draw the graph, such as the color and size of glyphs or the thickness of lines, can be used to encode statistics about the nodes and links. The interesting aspects of a graph often involve its topology, structure, and connectivity, and the positioning or layout of the nodes and links can often be exploited to emphasize these properties" *[section 1, paragraph 3, lines 8-11]*. Further, "The glyphs may be colored, shaped, and sized to encode statistics associated with the nodes, for example, the router capacity, utilization, and packet losses" *[section 1, paragraph 5, lines 12-15]*. Thus, the nodes in the graph represent the physical devices in the telecommunication network and the attributes of the physical device may be represented by color and size.

11-14. Regarding claim 34, Cox anticipates the claim of the method wherein the foreground image representation is a composite of multiple individual representation of

one or more of the aspects of the telecommunication network, by teaching a 3D network layout that positions nodes geographically on a globe and draws lines or arcs among them *[section 2.1, lines 1-3]*. Thus, multiple individual nodes are displayed that represent the one or more aspects of the telecommunication network.

**Claims 35-42**

11-15. Regarding claim 35, Cox anticipates the claim of a network management tool comprising a Graphical User Interface available via a window on a display, said user interface being configured to provide the network manager with an ability to simultaneously display a reference view of a managed telecommunication network and an overlay view of the managed telecommunication network in a distinguishable fashion in said window, by teaching a 3D visualization system with an interface shown in *[figure 1]* containing glyphs, or graphical images, that represents a country. The color-coded arcs between the countries show the inter-country traffic *[section 2.1, paragraph 1, lines 13-14, 18-20]*. "Arcs can be rendered with translucency, thereby avoiding any occlusion of otherwise hidden arc segments *[section 2.2, paragraph 3, lines 10-12]*. The translucent arcs or the arcs with differing colors may represent the reference view and the non-translucent arcs or the arcs with a certain color the user is interested in viewing represents the overlay view of a managed telecommunication network.

11-16. Regarding claim 36, Cox anticipates the claim of the tool wherein the reference view and overlay view together comprise a plurality of user selectable aspects of the managed telecommunication network, and wherein the GUI is configured such that the user may choose which aspects should be used to generate at least one of the reference view and the overlay view, by teaching, "The graphical objects used to draw the graph, such as the color and size of glyphs or the thickness of lines, can be used to encode statistics about the nodes and links. The interesting aspects of a graph often involve its topology, structure, and connectivity, and the positioning or layout of the nodes and links can often be exploited to emphasize these properties" *[section 1, paragraph 3, lines 8-11]*. Further, "The glyphs may be colored, shaped, and sized to encode statistics associated with the nodes, for example, the router capacity, utilization, and packet losses" *[section 1, paragraph 5, lines 12-15]*. Cox also teaches that rendering the arc with translucency is an option incorporated into the arc map made available to a user *[section 2.2, paragraph 3, lines 1-6, 10-12]*. Finally, "The user may perform filtering of the arcs to select only those with certain attributes. Incorporating user interface controls such as filtering and translucency can further reduce the visual complexity of the display, and thereby lead to greater insights" *[section 2.1, paragraph 3, lines 17-21]*. Thus, the reference and overlay views comprise a plurality of user selectable aspects of the managed telecommunication network and the user may choose which aspects should be used to generate at least one of the views.

11-17. Regarding claim 37, Cox anticipates the claim of the tool wherein the overlay view is displayed in relief relative to the reference view, by teaching, "The color and thickness of the lines may be used to represent the traffic, with the thicker and brighter lines showing the links carrying the most traffic, with the greatest capacity, and so forth" *[section 1, paragraph 5, lines 8-12]*. Thus, arcs with bright lines represent the overlay view, which is displayed in relief relative to the dimmer lines, which represent the reference view.

11-18. Regarding claim 38, Cox anticipates the claim of the tool wherein the reference view is a view of a base model representation of a network layout containing information about network devices and attributes of the network devices, by teaching, "The properties of the graphical objects used to draw the graph, such as the color and size of glyphs or the thickness of lines, can be used to encode statistics about the nodes and links. The interesting aspects of a graph often involve its topology, structure, and connectivity, and the positioning or layout of the nodes and links can often be exploited to emphasize these properties" *[section 1, paragraph 3, lines 8-15]*. The base model representation may be the nodes and links that contain only certain attributes or that may be in a certain geographic location. Thus, the reference view contains information and attributes of the network devices represented by the nodes.

11-19. Regarding claim 39, Cox anticipates the claim of the tool wherein the base model representation generated from a network information set containing complete

information about the underlying telecommunication network, by teaching that the 3D model shows the complete network *[section Abstract, lines 11-12]*, given that the user doesn't perform filtering of the arcs to select only those with certain attributes *[section 2.1, paragraph 3, lines 17-18]*. It is inherent that if the 3D model were to display the complete network, an information set containing complete information about the underlying telecommunication network would inherently be needed.

Cox anticipates the claim of the tool wherein the base model representation represents less than all of the information contained in the network information set, by teaching, "The properties of the graphical objects used to draw the graph, such as the color and size of glyphs or the thickness of lines, can be used to encode statistics about the nodes and links. The interesting aspects of a graph often involve its topology, structure, and connectivity, and the positioning or layout of the nodes and links can often be exploited to emphasize these properties" *[section 1, paragraph 3, lines 8-15]*. Thus, the base model representation may be the nodes and links that contain only certain attributes or that may be in a certain geographic location, which would represent less than all of the information contained in the network information set.

11-20. Regarding claim 40, Cox anticipates the claim of the tool wherein the GUI enables multiple versions of the base model representation to be generated from different aspects of the information contained in the telecommunication information under control of the user, by teaching, "The user may perform filtering of the arcs to select only those with certain attributes" *[section 2.1, paragraph 3, lines 17-18]*.

11-21. Regarding claim 41, Cox anticipates the claim of the tool wherein the GUI enables instructions to be input from a user to enable the user to alter the appearance of the base model representation by selecting different subsets of information from the network information set to be used to generate the base model representation, by teaching, "The user may perform filtering of the arcs to select only those with certain attributes" *[section 2.1, paragraph 3, lines 17-18]*. Thus, the user can alter the appearance of the base model representation by selecting and therefore, inputting instructions to view the certain attributes.

11-22. Regarding claim 42, Cox anticipates the claim of the tool wherein the network information set comprises physical topography information associated with network elements on the telecommunication network, by teaching a technique for positioning the nodes geographically on a globe *[section 2.1, paragraph 1, lines 1-2]*.

Cox anticipates the network information set comprising logical interconnection information associated with the telecommunication network, by teaching that lines or arcs are drawn between the nodes *[section 2.1, paragraph 1, lines 1-3]* that represent the connections between the nodes. Cox teaches that the lines may be used to represent traffic *[section 1, paragraph 5, lines 8-12]*. Traffic may represent a time-varying statistic, as with the call flow in a telecommunications system throughout the day, a constant, as with network capacity, or a stochastic statistic, as with the number of IP packets sent between routers on a backbone data network *[section 1, paragraph 4,*

*lines 4-9]*. Thus, the information set may contain logical interconnection information associated with the telecommunication network.

Cox anticipates the network information set comprising status information associated with the network elements and performance attributes associated with the network elements, by teaching, "The color and thickness of the lines may be used to represent the traffic, with the thicker and brighter lines showing the links carrying the most traffic, with the greatest capacity, and so forth. The glyphs may be colored, shaped, and sized to encode statistics associated with the nodes, for example, the router capacity, utilization, and packet loss" *[section 1, paragraph 5, lines 8-12]*. Thus, the status information includes the amount of traffic between the nodes. The performance attributes include the router capacity, utilization, and packet loss.

**Claims 44-46**

11-23. Regarding claim 44, Cox anticipates the claim of the method for presenting a visual representation of a telecommunication network layout comprising the step of obtaining an information set containing information relevant to the telecommunication network layout, by teaching that a 3D model shows the complete network *[section Abstract, lines 11-12]*. It is inherent that if the 3D model were to display the complete network, an information set containing complete information about the underlying telecommunication network would inherently be needed.

Cox anticipates the method comprising the step of generating a representation of at least a portion of the information set, said representation having a background image

portion indicative of at least a first aspect of the telecommunication network layout, said background image being derived from at least a first data subset of the information set, and said representation having a foreground image indicative of at least a second aspect of the telecommunication network layout, said foreground image being derived from at least a second data subset of the information set, by teaching a 3D network layout that positions nodes geographically on a globe and draws lines or arcs among them *[section 2.1, lines 1-3]*. "Appropriate selection of the path can reduce the display clutter, and the routing of paths through the globe is effective when used in combination with the translucency control" *[section 2.1, paragraph 3, lines 13-17]*. Cox further explains the translucency control by teaching, "The arcs can be rendered with translucency, thereby avoiding any occlusion of otherwise hidden arc segments" *[section 2.2, paragraph 3, lines 10-12]*. Thus, the translucent arc segments, globe, and arcs that lie spatially behind other arcs represent the background image and the arc segments that aren't translucent or that spatially lie in front of other arcs represent the foreground image. The background and foreground as a whole make up the complete network, provided the user does not perform filtering of the arcs to select only those with certain attributes *[section 2.1, paragraph 3, lines 17-18]*. The complete network is, inherently, derived from a network information set. Thus, the background and foreground images are derived from a subset of the information set.

11-24. Regarding claim 45, Cox anticipates the claim of the method wherein the background image is presented in a dilute color format and wherein the foreground

image is presented in a saturated color format, by teaching, "The color and thickness of lines may be used to represent the traffic, with the thicker and brighter lines showing the links carrying the most traffic, with the greatest capacity, and so forth" *[section 1, paragraph 5, lines 8-12]*. Thus, the lines between the nodes that carry little traffic may be represented by a dilute color and the lines that carry a lot of traffic may be represented by a more saturated color.

11-25. Regarding claim 46, Cox anticipates the claim of the method wherein at least one of the first and second data subsets are user selectable to enable a user to control the appearance of at least one of the foreground image and background image, by teaching that rendering the arc with translucency is an option incorporated into the arc map made available to a user *[section 2.2, paragraph 3, lines 1-6, 10-12]*. Thus, the user can select which arcs are in the foreground and which are in the background.

### *Claim Rejections - 35 USC § 103*

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cox et al (SIGMOD Record, Vol. 25, No. 4, December 1996), supra, and Uribe (US Patent No 5,461,560).

**Claim 43**

13-1. Regarding claim 43, Cox anticipates the invention substantially as claimed. See section 11-15. Cox anticipates the claim of a network management tool comprising a Graphical User Interface available via a window on a display, said user interface being configured to provide the network manager with an ability to simultaneously display a reference view of a managed telecommunication network and an overlay view of the managed telecommunication network in a distinguishable fashion in said window, by teaching a 3D visualization system with an interface shown in *[figure 1]* containing glyphs, or graphical images, that represents a country. The color-coded arcs between the countries show the inter-country traffic *[section 2.1, paragraph 1, lines 13-14, 18-20]*. "Arcs can be rendered with translucency, thereby avoiding any occlusion of otherwise hidden arc segments *[section 2.2, paragraph 3, lines 10-12]*. The translucent arcs or the arcs with differing colors may represent the reference view and the non-translucent arcs or the arcs with a certain color the user is interested in viewing represents the overlay view of a managed telecommunication network.

Cox does not teach using a display that is touch sensitive and acts as an input device. Cox does mention that the 3D network display is used to show complex geographic networks *[section 5, paragraph 1, lines 1-3]*. Because the display shows a

large network that includes many different countries, users from all over the world may use the software to manage their networks. Uribe teaches an advantage of using a touch screen is that the image on a display is interchangeable to reflect a configuration of auxiliary devices. So unlike a fixed keyboard, an image can be adapted to a particular setup that occasionally changes without requiring any different hardware *[column 6, lines 29-35]*. Thus, the system can be easily used in foreign countries without replacing a keyboard simply by reprogramming the key areas with symbols or words appropriate to a specified country.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the touch sensitive display as taught by Uribe with the network management tool as taught by Cox in order to allow the tool to be easily customizable to a wide range of users, since the geographic network display spans the globe.

***Conclusion***

14. The prior art made of record on attached form PTO-892 and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R § 1.111(c) to consider these references fully when responding to this action. The documents cited therein teach similar systems for a method and system for representing network topology.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alvin H. Tan whose telephone number is 571-272-8595. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca can be reached on 571-272-4048. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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